

Laparoscopic cholecystectomy (LC) is the gold standard technique for symptomatic cholelithiasis and one of the most frequently performed procedures in surgery. LC has substituted traditional cholecystectomy due to a more comfortable postoperative period than the open approach . Many authors have evaluated the safety and the initial results of LC in the ambulatory setting. However, ambulatory LC remains controversial. In the USA, LC is regularly performed as a day care procedure in patients with uncomplicated gallstone disease.

The results of LC in day-care facilities are publications on ambulatory LC have focused on the need for selection criteria and in the safety of the ambulatory management. LC for symptomatic cholelithiasis is safe and feasible; it should be the first choice before resorting to open surgery. In patients with acute cholecystitis as compared to chronic cholecystitis, there is an increased conversion rate, longer operation time, longer hospital stay, and higher incidence of gallbladder perforation without an increase in the incidence of bile duct injuries (BDI). Male

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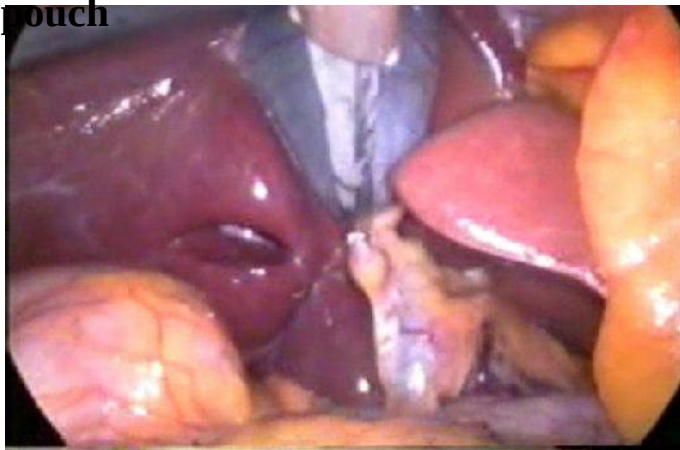
LAPAROSCOPIC COLECYSTECTOMY

Since Mouret performed the first laparoscopic cholecystectomy in 1989 in Lyon, France, this laparoscopic procedure has become the standard surgical treatment worldwide for biliary cholelithiasis. The new technique was used for many intra-abdominal benign lesions, including inguinal hernia repair, Nissen procedure, gastric banding for morbid obesity, splenectomy, living donor of kidney, spinal disease and in the gynecological fields. The first reported laparoscopic colorectal surgery for malignant colon lesions was done by Jacob in 1991, and these issues become of concern again and again.

In 1994, Berends reported 21% port site metastasis after laparoscopic surgery for colorectal cancer.² Some surgeons stopped doing the operation, but other vigorous enthusiastic



Grasping the body temporarily for better grasp of the Hartman's" pouch



Grasping the Hartman's pouch

patients have a longer operation time and higher conversion rate than female patient



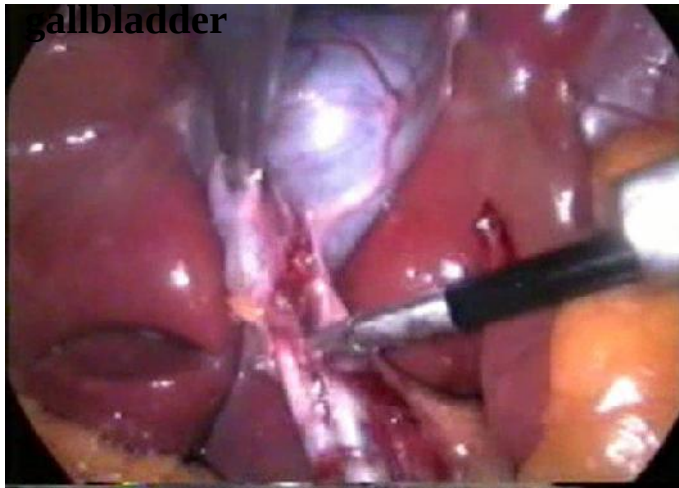
Showing laparoscopic view of liver and gallbladder



Grasping gallbladder in the fundus



**Making a window in the
peritoneal covering at neck of the
gallbladder**



Exploration of the cystic duct

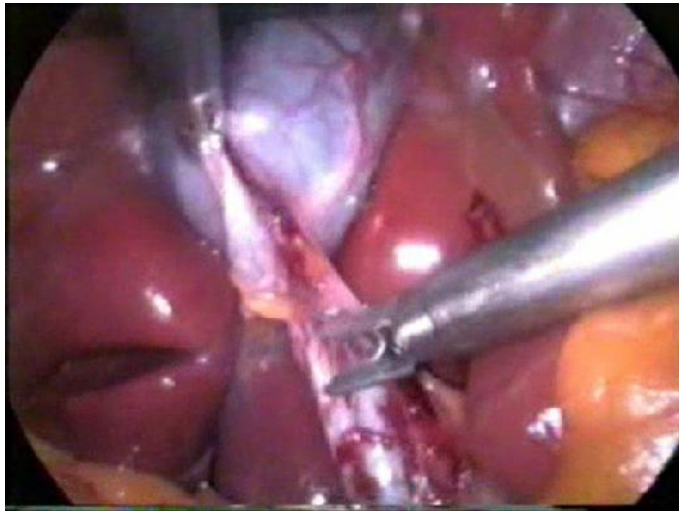


**Showing hepatoduodenal
ligament**



Dissection cystic duct

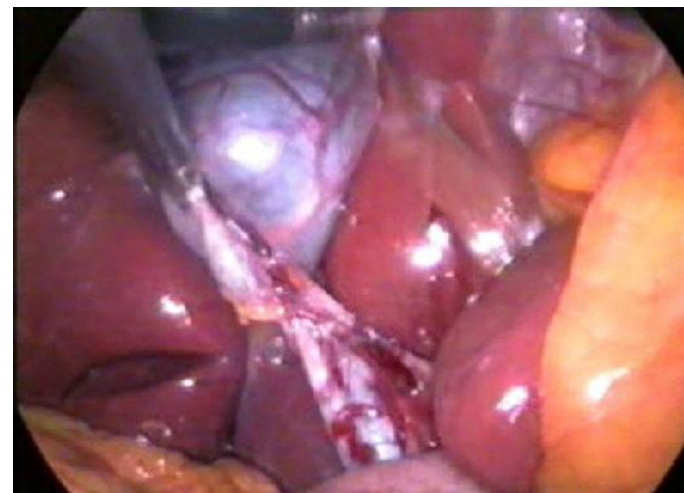
View of the cystic duct



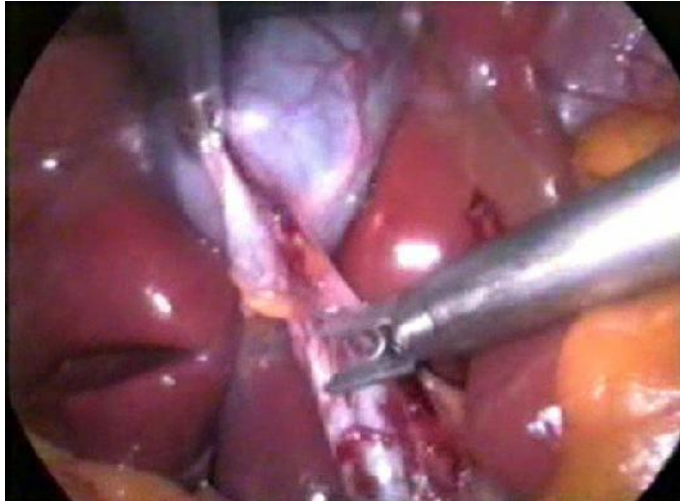
Adhesiolysis near cystic duct



Exploration of the cystic duct



Clipping the cystic duct



Clipping the cystic duct



View of the dissected cystic duct



Dissecting the cystic duct



Scissors is in



**Cutting of the cystic duct
between proximal and distal clips**



**Clipper on the cystic duct for
proximal clipping**



**Clipper on the cystic duct for
distal clipping**



Fine dissection of the cystic artery by the hook



Control of the artery by clipping or by coagulation and cutting



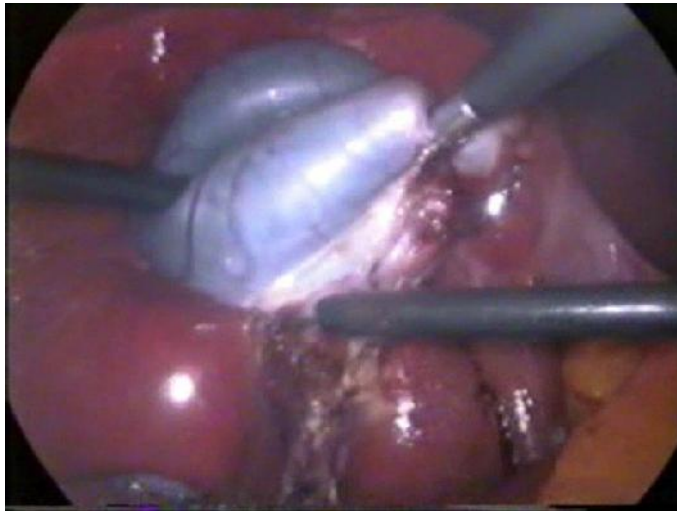
Showing cut ends of the cystic duct



Diathermy hook is in



**Start of removing the
gallbladder from its bed by the
hook**



**Removing the gallbladder from its
bed by the hook from right side**



**Cauterization of the artery in 2cm apart points
then cutting in
between**



Cut ends of the artery



**End of removing the
gallbladder from its bed by the
hook**

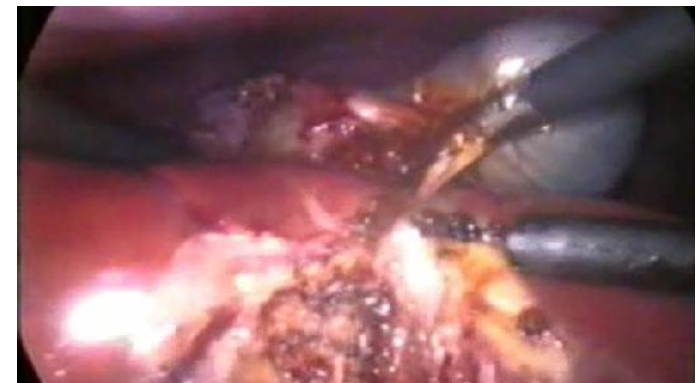


Free gallbladder

**Removing the gallbladder from
its bed by the hook from left side**



**Removing the gallbladder from
its bed by the hook**



**Extraction of the
gallbladder via 10mm trocar**



**Gall bladder pulled out of the
abdomen**

**Free gallbladder put on the
liver**



**Extraction of the
gallbladder, grasping cut cystic
duct**



The fundamental principle is to catch and remove the adherent omentum or fibrous band as near as possible to the gallbladder

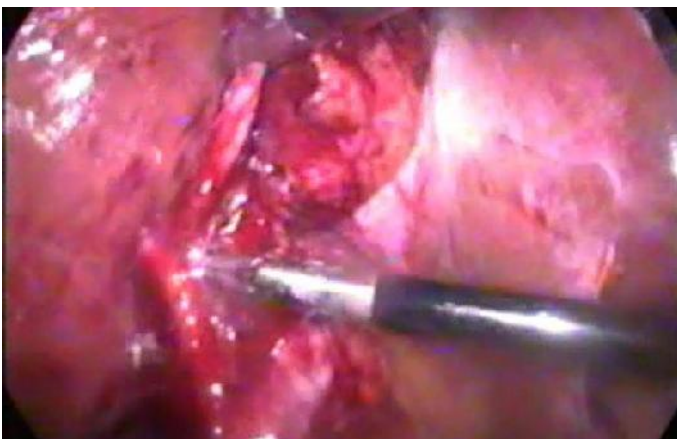


Catch and remove the adherent omentum or fibrous band as near as possible to the gallbladder

Adhesions during laparoscopy

Some time from previous operations or from chronic cholecystitis we will face different degrees of adhesions in the field, or of gallbladder to the surrounding which need patient and delicate dissection and adhesiolysis to make the field optimal for procedure

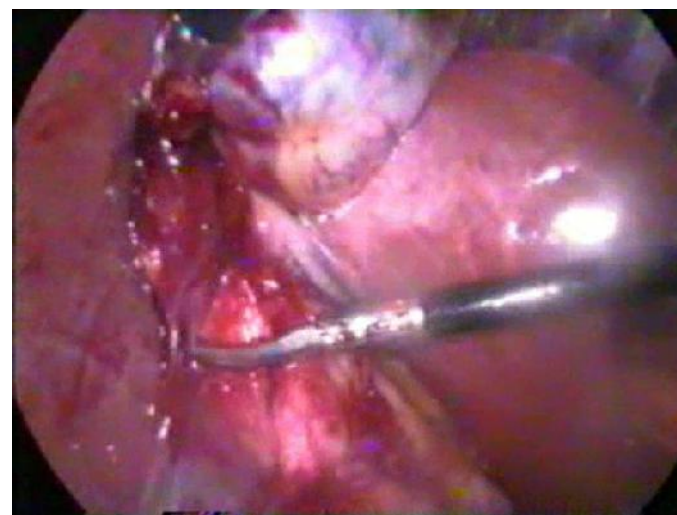




Adhesiolysis near cystic duct



Dissecting cystic duct



Continue the dissection in same manner

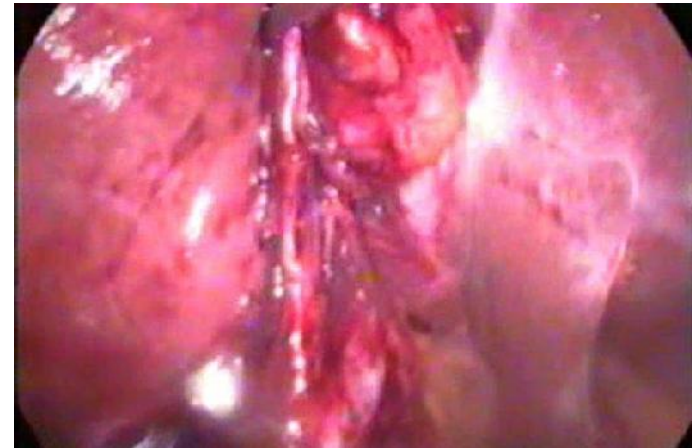


Cystic artery after adhesiolysis

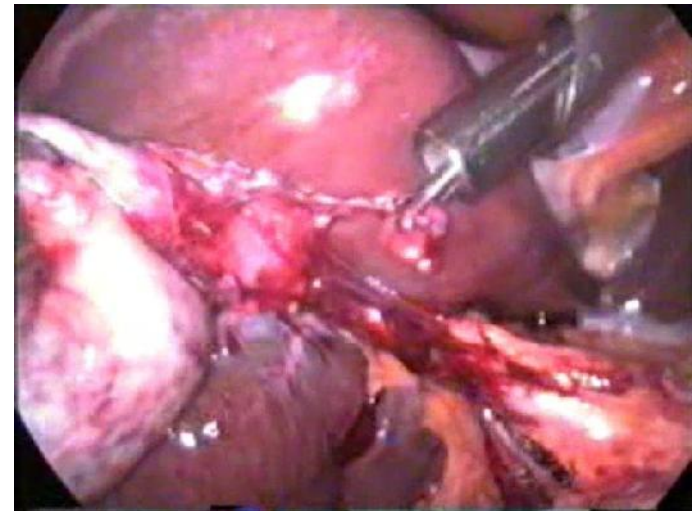
LAPAROSCOPY For Acute Cholecystitis

* Under general anesthesia, the patient is placed in a supine position. Abdominal access and pneumoperitoneum are achieved using an open Hasson approach below the umbilicus.

* Pneumoperitoneum maintained with carbon dioxide gas at a pressure of 10 mmHg during the surgery.



**Callot triangle after
adhesiolysis**



**Lymph node excised, usually it
is near the cystic artery**



Adhesiolysis



Dissection of the cystic artery after adhesiolysis

- * Three additional trocars are inserted in the upper abdomen. The cystic duct and artery are ligated using metallic or absorbable clips.
- * Intraoperative cholangiography must perform in selected patients in preoperative examination.
- * Such as drip infusion cholangiography or magnetic resonance cholangiography, could not detect the bile duct clearly.
- * After the gallbladder was freed by dissection, the specimen is extracted using a retrieval bag through the umbilical wound.
- * A Penrose drain may be placed at the liver bed and the abdominal wall sutured.
- * The operative times, intraoperative blood loss, intraoperative complications, rates of conversion to

open surgery and reoperation, hospital stay and

morbidity and mortality are more in comparison to elective cholecystectomy.

- * The intraoperative blood loss determined by weighing the aspirated blood and blood-soaked gauze.

Criteria for day-only admission

Live within 30 min drive from hospital
Access to private transport
Responsible adult with patient for 24 h postoperatively
American Society of Anesthesiologists classification of 3 or less
Attendance at a preadmission clinic

Lymph Node on the cystic artery



Peeling of gallbladder from its bed is easy



Haemostasis of the bed of gallbladder by coagulation



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